APPARATUS, METHOD, AND SYSTEM FOR LOGGING DIAGNOSTIC INFORMATION

ABSTRACT OF THE DISCLOSURE

A diagnostic tracing logger is presented for use in a multithread environment in which diagnostic trace log entries are captured and recorded. The trace logs are composed of sequences of memory addresses used to access instructions and operands, instruction op-codes and register specifiers, sequences of memory addresses, branch instructions or exceptions, the contents of registers or semiconductor memory locations, and the like. In one embodiment, a software module configures a plurality of buffers to capture bus traces, each trace triggered by a specific pattern. A buffer controller manages transfer of diagnostic trace information from the plurality of buffers to a diagnostic log without using processor memory cycles. The trace information is transferred to a selected buffer using a processor cache flush instruction. Diagnostic trace logging facilitates diagnosis of complex system and software interactions without the cost and overhead of prior art trace logging techniques.

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